



THE OSPREY

A Journal Published by the Steelhead Committee
Federation of Fly Fishers



Dedicated to the Preservation of Wild Steelhead • Issue No. 71 • JANUARY 2012

Hope like a Coho, Sting like a Bee The Condit Dam removal story

by Katherine P. Ransel
— Seattle, Washington —

Katherine P. Ransel, who was Co-Director and then Director of the NW regional office of American Rivers, represented 14 NGOs in the Condit dam relicensing proceeding from December of 1992 until June of 2001. Credit for the title of this article goes to David James Duncan (Duncan, David James. 1997. *How to Hope Like A Coho*. Portland: Cascadia Times: February, 7-12), and Muhammad Ali, respectively. Footnotes for this article are found on page 6.

When asked to explain why a utility would agree to remove a functioning hydropower project at its own expense, I had to rout among a raft of documents, some of which were nearly 20 years old, to recall the journey from the beginning of a relicensing proceeding in December of 1992 to the drama of October 26, 2011, when the dam owner, Pacificorp, blew an enormous hole in the bottom of Condit dam on the

White Salmon River, in Washington state. At 125 feet, it is the second highest dam to have been breached in the United States.¹

That walk down memory lane reminded me that in the seven years

**In 1992, dam removal
was considered radical
— something to dream
about but very little
hope of achieving.**

from intervention to the settlement accords of December of 1999, Pacificorp tried every trick in the book to avoid its responsibility for the damage its facility had visited on the river and its salmon and steelhead runs.

Back then, dam removal had been mentioned as a possibility for the out-

come of the Condit dam relicensing, but few really took it seriously. In 1992, dam removal was considered radical and something that conservationists dreamed about but had very little real hope of achieving. It was not until 1995 that the Federal Energy Regulatory Commission (FERC) issued a policy statement acknowledging that it had the authority to require removal in a relicensing, authority that it nevertheless was loathe to exercise. Moreover, removing high head dams found in the West is a far cry from breaching the low head dams found on the east coast.² The sediment trapped by Western high head dams like Condit presented a completely different engineering challenge, the greatest of which was managing tons of potentially toxic sediment accumulated behind them. The Columbia River treaty tribes, including the Yakama Nation through whose ceded lands the river runs, were the only government bodies not only willing to talk about removing

Continued on Page 4

IN THIS ISSUE:	CONDIT DAM REMOVAL	INFECTIOUS SALMON ANEMIA	IDAHO UPDATE	PUGET SOUND THEN & NOW	THOMPSON R TROUBLES	WILLAPA SALMON
	— PAGE 1 —	— PAGE 7 —	— PAGE 10 —	— PAGE 13 —	— PAGE 15 —	— PAGE 18 —

FROM THE PERCH — EDITOR'S MESSAGE

An Issue for Everyone

by Jim Yuskavitch

Fresh from our well-received special September 2011 British Columbia issue, *The Osprey* is back to covering a variety subjects that wild salmon and steelhead advocates need to know and care about. Our cover article for this issue is the fascinating background story leading up to the removal of Condit Dam on the White Salmon River by

Katherine Ransel who, as a staffer with American Rivers, was integral to the campaign to remove the dam, which first required convincing conservationists and bureaucrats alike that it was actually a real option.

A second insider story in this issue is by Alexandra Morton of the Raincoast Research Society, a regular contributor to *The Osprey*, who details the discovery and subsequent cover-up of Infectious Salmon Anemia virus in wild salmon in British Columbia and the potential threat it poses to wild fish recovery.

Rounding out this issue are updates on Puget Sound and Idaho wild salmon and steelhead issues, a critique of excessive hatchery salmon production in Washington's Willapa basin and a return to the Thompson River with an analysis of its new sport fishing management strategy.

As always, I hope this issue of *The Osprey* will continue to inspire you to stand up for wild salmon and steelhead and work for their future.



A bright Thompson River steelhead, the focus of our story beginning on page 15. Photo by Tomas Jirku.

THE OSPREY



Chair
Will Atlas

Editor
Jim Yuskavitch

Contributing Editors

Pete Soverel • Bill Redman
Stan Young • Norm Ploss
William Atlas • Schuyler Dunphy
Scott Hagen

Contributors

Katherine P. Ransel • Will Atlas
Alexandra Morton • Greg Stahl
Greg Gordon • Ron Nanney

Layout

Jim Yuskavitch

Letters To The Editor

The Osprey welcomes submissions and letters to the editor.

Submissions may be made electronically or by mail.

The Osprey

P.O. Box 1228
Sisters, OR 97759-1228
jyusk@bendcable.com
(541) 549-8914

The Osprey is a publication of The Federation of Fly Fishers and is published three times a year. All materials are copy protected and require permission prior to reprinting or other use.

The Osprey © 2012

The Federation of Fly Fishers is a unique non-profit organization concerned with sport fishing and fisheries

The Federation of Fly Fishers (FFF) supports conservation of all fish in all waters. FFF has a long standing commitment to solving fisheries problems at the grass roots. By charter and inclination, FFF is organized from the bottom up; each of its 360+ clubs, all over North America and the world, is a unique and self-directed group. The grass roots focus reflects the reality that most fisheries solutions must come at that local level.



THE OSPREY IS PRINTED ON RECYCLED PAPER USING SOY INK

Join the Federation of Fly Fishers

Conserving, Restoring, Educating Through Fly Fishing

Invest in the future of "all fish, all waters," with a membership in the FFF — a nonprofit organization. Your membership helps make us a stronger advocate for the sport you love!

Federation of Fly Fishers
5237 US Hwy 89 South, Suite 11
Livingston, MT 59047-9176

Your membership includes a subscription to *Flyfisher*, the quarterly magazine of the FFF.



Yes, I want to join the FFF:

- \$35 Individual
- \$15 Youth (under 18)
- \$25 Senior (65 and older)
- \$45 family

- Payment enclosed
- Bill me later

Name _____
Address _____
City _____ State _____
ZIP _____ Phone _____

Join by phone 406-222-9369
Or at www.FedFlyfishers.org

You'll also receive **FLYFISHER**, our quarterly magazine!

Wild Salmonid Mgt. Zones best way to protect wild salmon and steelhead

by Will Atlas

— Chair, Steelhead Committee —

Another year, another angling closure for Puget Sound's storied winter steelhead fisheries. While it no longer comes as a surprise, the announcement that rivers such as the Skagit, Skykomish and Stillaguamish would all be closing February 1st to protect wild steelhead still feels about as good as a punch in the gut. Like many anglers in the Seattle area, the Skykomish, Skagit and Sauk are where I learned to love steelhead angling. Many of my richest memories were formed on the banks of these rivers and I have been frustrated by the mismanagement of our wild steelhead stocks by the Washington Department of Fish and Wildlife (WDFW). In 2007, just six years, or one generation of steelhead, after WDFW finally closed the Skagit and Skykomish to the harvest of wild steelhead, Puget Sound steelhead were listed as Threatened under the Endangered Species Act. Fish whose parents could have been legally killed by sports fisherman were suddenly far too precious to allow even relatively low impact catch and release fisheries. This management by closure, where by doing nothing until populations are severely depressed and then closing angling altogether, is a depressing example of WDFW's lack of foresight. Eliminating catch-and-release fishing, while other far more harmful impacts persist is farcical and is the outcome of a department with an inability to institute proactive management policies that protect wild fish. Of course hindsight is 20:20, and it is all too easy to criticize the department for past actions, but we owe it to the fish to do better by respectfully engaging WDFW and expressing our desire to see wild fish management take precedence statewide. While I believe there is a path to a better future for wild fish we still have a long way to go.

What is frustratingly clear about the situation in Puget Sound is that while much of the remaining habitat is slowly recovering from a century of logging and other abuses, the marine environment is currently the primarily limiting factor for populations of wild steelhead in Puget Sound. The fact is we know very little about why the marine survival of wild steelhead has plummeted in recent years and even with quality information, there are only so many tools available to managers to potentially improve survival.

Entire river basins should be prioritized for protection as Wild Salmonid Management Zones for all fish species.

One thing we can do though is reduce the impact of hatcheries on wild salmon and steelhead. Hatcheries are the single biggest factor associated with the decline of wild salmon and steelhead that lie within the control of our state resource managers, and reducing or eliminating hatchery production throughout the Puget Sound could potentially go a long way towards increasing the productivity and survival of wild fish.

WDFW has promised to do just that by establishing Wild Salmonid Management Zones in each region of the state. However simply eliminating the release of a single species in a watershed swamped with hatchery fish of other species is only one piece of the puzzle, a step that all but eliminates

the risk of hatchery introgression into a wild population of that species but does little to prevent the broader ecological and disease risks posed by hatchery operations. But change is difficult in a state where hatcheries have been such a central part of the fisheries management mantra for decades. As former WDFW Director Bern Shanks famously said, a hatchery is what you get if you cross a "military base with a sacred cow." When pressed fisheries managers will admit their concern over the impact of hatcheries, but what follows is usually an excuse about the need for hatcheries to create "opportunity" or the fact that hatchery production is made necessary by treaty obligations to native tribes. However, despite a \$50 million state hatchery budget and five decades of industrial hatchery supplementation, things are only getting worse. Even with hatcheries, steelhead fishing "opportunity" has been reduced to a short two-month window of angling in Puget Sound. To truly address the effect of hatcheries in Puget Sound, we need a sea change in the paradigms guiding fisheries management in our state. We should be prioritizing entire river basins for protection as Wild Salmonid Management Zones for all species. With an uncertain future for wild salmon and steelhead, we owe it to the fish to do everything in our power to help them recover, and in the case of hatcheries, it's time we got out of their way.



Condit Dam

Continued from page 1

the dam, but also ready to work with us to achieve it.

So how did we do it? First, we asked as many groups as possible from the Columbia Gorge area as well as national organizations to join American Rivers (AR) in our intervention. It was a bit like waving your arms over your head to appear larger than you really are when encountering a bear. Because it would cost the other organizations nothing, it was easy enough for them to do. Due to the presence of the large national organizations, we could count hundreds of thousands of people as members of “conservation parties.”³ Smaller organizations based in the Columbia Gorge ensured that the intervention could not rightfully be called an attempt by outsiders to force their agenda on the local populace.⁴

Little did we realize just how radical dam removal was viewed by the federal and state agencies that would be participating in the relicensing, and even by the members of some of the organizations that composed our coalition. Not only did we have to outwit a major utility with virtually unlimited resources compared to those of AR, but we had to cajole the agencies constantly, bringing them slowly along to the idea of articulating the words “dam removal,” let alone strategizing with us on how to bring it about.⁵

Second, we marshaled the facts in favor of complete restoration of the river. Built in 1913 near the mouth of the White Salmon River, Condit dam blocked as much as 40 miles of salmon and steelhead habitat. Formerly healthy runs of spring and fall Chinook, coho, and summer and winter steelhead were either extinct or at high risk of extinction. We coupled this with the fact that the White Salmon is low in the Columbia basin, and salmon would have only one mainstem dam to negotiate (Bonneville dam), making a compelling case for restoring the fishery. Moreover, we noted that the White Salmon River is one of only three federally designated National Wild and Scenic Rivers in the state of Washington. The lower river is part of the Columbia Gorge National Scenic Area; the middle river is a federal wild and scenic river; and at the time, the

upper river had been recommended for inclusion in the national wild and scenic system (and now is included). The river has always been extremely popular with white water boaters. The whitewater experience ended abruptly at the reservoir, however, robbing them of the enjoyment of the remaining several miles of the river and the Columbia Gorge National Scenic Area.

The next step was the fight for a com-

assess the impacts of relicensings as if the dams had never been built. We also had to convince the agencies to request FERC to include the option of dam removal in the environmental review; most were reluctant even to mention it.

Moreover, we had to ensure sufficient numbers of people at the first public hearing to support a dam removal alternative in the environmental impact statement (EIS) to let



After a long, difficult struggle that began in 1992, the Condit Dam on Washington's White Salmon River, was finally removed beginning on October 26, 2011. Photo by Todd Mera

plete environmental review to explore alternatives to an “as is” relicensing. At the time, we were locked in battle with FERC over what was known as the “baseline” issue. The company assumed it would simply pick up a new license with no environmental review, because, after all, from its perspective, nothing was going to change; there would be no impacts from relicensing the dam if current conditions were used as the “baseline” from which impacts would be measured. We had been fighting in the courts for years to require the Commission to

FERC know that a large segment of the community wanted this option studied. The local Columbia Gorge groups were central to this effort and livened up the public hearings with fish costumes and pantomimes of dam breaching, with local children playing their parts as the salmon.

As the relicensing progressed, we spent a great deal of effort warding off Pacificorp's attempts to defeat jurisdiction; to delay fish passage until “sufficient studies” over “many years” showed whether the habitat in

Continued from previous page

the White Salmon was worthy of being repopulated; to mitigate the environmental impacts of Condit dam with habitat projects in other basins (in lieu of fish passage at the Condit facility); and finally, when all else failed, to try to win approval of a trap and haul facility instead of passage facilities enabling the fish to migrate on their own.

Each strategy required time, research and persuasion to defeat. The jurisdictional challenge in particular was worrisome until we dug up historical evidence of logs being sent to market via the White Salmon to the Columbia, which proved that the river had been subject to use in interstate commerce. And Pacificorp's contracting Jim Lichatowich to tout the company's proposal to study the White Salmon to death and to propose habitat improvements in other basins was a good "political" move, because Lichatowich had gained enormous respect in the fisheries community for his collaboration on *Pacific Salmon at the Crossroads*.⁶ But none of Pacificorp's efforts to avoid proper mitigation for the damage it caused the river and the fishery was ultimately successful.

We were thankful that the National Marine Fisheries Service (NMFS) had mandatory authority to order fish passage and to prescribe the type of fish passage facility it deemed sufficient for this dam. Fish passage facilities built soon after the dam did not survive the steep canyon gradient of the White Salmon for very long; thus, any new facility, we argued to NMFS, had to be state of the art and fail-safe. And NMFS eventually agreed.⁷

At the same, we were working other pieces of the legal puzzle to our advantage. With the tribes, we had asked the Northwest Power Planning Council to amend the Columbia Basin Fish and Wildlife Plan to include an element that called for Condit to be removed. Why? Most people think the Council and its authorizing legislation have no teeth. But what is not known to those unfamiliar with the Federal Power Act is that it requires FERC to act consistent with any comprehensive plan that has been adopted for a waterway. Moreover, the federal courts had ruled

that the Council's Fish and Wildlife Plan is a comprehensive plan for purposes of the Federal Power Act. Although the Council did not give us our removal amendment, it did give us our second choice, which was the virtual equivalent: it called for the best biological option for fish passage in the White Salmon River. In the end, the Council's plan, plus the number of local people who spoke in favor of studying dam removal at the public hearing, persuaded FERC to include dam removal as an alternative in the EIS.

AR was also working on a case that had reached the U.S. Supreme Court from Washington state. Decided in

In the end, FERC was finally persuaded to include removal of Condit Dam as an alternative in the Environmental Impact Statement.

1994, the outcome turned legal authority over instream flows on its head, allowing state water quality agencies instead of FERC to dictate the amount of flow that would be left instream to protect fisheries below.⁸ That outcome would affect the economics of every subsequent FERC licensed hydro project in the country, including the Condit project. Any flow left in the river instead of run through the turbines would reduce generation at the plant, affecting its profitability. This was, if less so than fish passage, still a blow to project economics.

Also central to our success were the monthly meetings that American Rivers and the Columbia Basin Fish and Wildlife Authority (CBFWA) arranged to engage the federal and state resource agencies and invest them in the outcome. Through these meetings, we kept the agencies on track and exerted subtle psychological pressure on them to work with us and the tribes to, at the very least, not act

in ways that would hinder a removal outcome. Some were easier to work with than others. In these meetings, AR also shared the most recent developments in other relicensing proceedings around the country where removal was on the table to assure the agencies that they were not alone.

In addition, American Rivers and CBFWA created a joint restoration plan for the White Salmon River, which was adopted by federal, state and tribal agencies and the Yakama tribe. We created it to give life to the Power Council's Basin Plan for the White Salmon to adopt the biologically optimal form of fish passage. It evaluated restoration opportunities for all of the salmon and steelhead stocks native and then extant in the White Salmon River. The restoration plan also reviewed various fish passage options and demonstrated that dam removal presented the best option for restoration of the river's fishery. And FERC pointed to the CBFWA/American Rivers restoration plan when it concluded in the draft environmental impact statement (DEIS) that dam removal was the best biological option for fish passage. Credit goes to Clayton Hawkes, who then worked for CBFWA, for his dedication to writing the plan and ensuring that all of the resource agencies and tribes approved it. Perhaps the greatest legacy of the restoration plan will be the tribes' and fishery agencies' agreement to let nature and the salmon take their unfettered and un-supplemented course after the dam was removed.⁹

While FERC found in the DEIS that dam removal was the best biological option for fish passage, citing our joint restoration plan, it also concluded that removing the dam was cost prohibitive. We took the DEIS apart, and engaged experts to help us analyze and present its flaws. We asked Dennis Gathard, who had developed the initial plans for removal of the Elwha River dams, to be our engineering expert. His report showed that dam removal could be accomplished for *five times less* than FERC's estimate. In addition, American Rivers and the Yakama Nation introduced a report by Phil Meyer, an expert natural resource economist. Meyer showed that the economic benefits of removal out-

Continued on next page

Condit Dam Footnotes

Continued from previous page

weighed any other fish passage alternative, having the best overall cost/benefit ratio among all of the alternatives studied by FERC.

It was after the introduction of the expert reports, and FERC's final environmental impact statement adopting NMFS' prescription for state of the art fish screens and ladders, that settlement negotiations began. American Rivers proposed the central thesis of the agreement to the Yakama Nation (which was in closed discussions with Pacificorp), *viz.*, to allow PacificCorp to continue to operate Condit dam for several years to generate funds to offset the cost of removal.¹⁰ This proposition, together with Gathard's significantly lower estimate of dam removal costs compared to those of fish passage, had brought the company to the table.

The formal negotiations began with the engineering challenges of dam removal and sediment management, and Dennis Gathard was central to them. We settled on a breach approach that provided for rapid sediment removal and thus quick recovery of the river. This approach also significantly reduced costs over other alternatives and promised to reduce the amount of time that fish would be exposed to sediment.

We then moved to the legal negotiations, which proved to be much more difficult and time consuming. Finally, in December of 1999, the parties announced their agreement at a press conference in Portland, Oregon. And while it was a fine day indeed, it was to be another 12 years before the dam was finally breached.¹¹

It was worth the wait. Watching the river recreate its canyon and natural flow pattern in as few as two hours was one of the most dramatic ends to a legal proceeding that I have ever experienced. And seeing the joy on the faces of so many people who had "hoped like a coho" for that day was well worth all of the work it took to get there.¹²



1. Elwha and Glines Canyon dams on the Elwha River in Washington State, 108 and 210 feet high, respectively, were breached in September of 2011, using a very different method of sediment management as the environmental conditions in the two rivers are very different.

2. E.g., the Edwards dam, a mere 24 feet high, which was not breached on Maine's Kennebec River until 1999.

3. The collective name I gave to American Rivers and the organizations I asked to intervene with us in the relicensing proceeding. They included American Whitewater Affiliation, Columbia Gorge Audubon Society, Columbia Gorge Coalition, Columbia River United, Federation of Fly Fishers, Friends of the Columbia Gorge, Friends of the Earth, the Mountaineers, Rivers Council of Washington, Sierra Club, Trout Unlimited, Washington Trout, and Washington Wilderness Coalition.

4. Local residents unhappy with the idea of removing the dam called us outsiders and troublemakers anyhow.

5. And we had to drop one of our original conservation parties, the White Salmon Steelheaders, because it publicly opposed reintroduction of salmon and steelhead above the dam. Its opposition was ironic because steelhead trout had the most habitat to gain from enabling fish to pass upstream.

6. Nehlsen, W., J. E. Williams and J. A. Lichatowich. 1991. Pacific salmon at the crossroads: Stocks at risk from California, Oregon, Idaho, and Washington. *Fisheries* 16:2 4-21. This report, much more so than any before it, brought public consciousness to the dire state of Pacific salmon.

7. Subsequently, the industry successfully lobbied for changes to the Federal Power Act that make it much more burdensome for NMFS to exercise its fishways authority. 16 U.S.C. §823D.

8. PUD. No 1 of Jefferson County et al. v. Washington Dept. of Ecology et al., 511 U.S. 700 (1994).

9. The tribes moved hundreds of fall Chinook from below to above the dam prior to breach, but this was a one-time effort to save the fish from being smothered by the sediment released with the dam's breach. As far as I know, there are no plans to supplement these stocks or otherwise interfere with natural repopulation.

10. The Company negotiated an "Agreement in Principle" with the Yakama Nation based on allowing it to continue operations until October of 2006 and providing \$1 million "fishery enhancement fund" to the Nation, among other things. With that in hand, the Company began formal negotiations with all of the parties.

11. I have chosen to stop at the removal agreement. The 11 years between the agreement and the dam's breach tell another story, one that must be left to another day. In sum, delays by FERC in addressing the settlement, and its opening of an entirely new proceeding in which it allowed new parties to intervene, set the stage for further delay and gave heart to a small group of people who had long-term rental cabins alongside the reservoir to attack the settlement. Klickitat and Skamania counties also intervened in the new proceeding to fight the settlement. Moreover, regulatory permits needed for demolition and breach also took years to obtain. After the last of them was granted, and appeals exhausted, FERC issued a final dam surrender order on April 21, 2011. From that date forward, the Company went about implementing the sanctioned plan for breach and removal.

12. A T-shirt designed by Daniel Dancer, one of the river's most active advocates, portrays a breached Condit dam and contains the exhortation: Hope like a Coho. I still have one of those T-shirts, which is at least 15-years-old and severely but beautifully frayed around the neck.



Infectious Salmon Anemia

A British Columbia salmongate?

By Alexandra Morton

— Raincoast Research Society —

Alexandra Morton, of the Raincoast Research Society, in Simoon Sound, BC, is a leading advocate of salmon conservation, especially battling Atlantic salmon farms and the diseases to which they expose wild salmon. The website is www.raincoastresearch.org.

On a Sunday night last October, a friend and colleague, Dr. Rick Routledge of Simon Fraser University, called to say two Rivers Inlet sockeye smolts had tested positive for European strain Infectious Salmon Anemia virus (ISAv). The news hit like a ton of bricks. I had written to one Minister of Fisheries after the next asking they close the border to Atlantic salmon eggs to protect BC salmon from ISAv. I was told not to worry, there were “measures in place to deal with not only ISA, but all fish diseases...” Rick’s research is on the 99% decline in Rivers Inlet sockeye.

Infectious Salmon Anemia virus (ISAv) is a fish influenza. Since appearing in Norway in 1984, ISA virus has turned up everywhere Atlantic salmon are farmed including eastern Canada, Scotland, Ireland and the Faroe Islands. When ISAv appeared in Chile, killing 70% of the salmon in farms, scientists discovered the virus came with Atlantic salmon eggs. The strain was traced to Norway. The salmon farming industry unsuccessfully attempted to charge Dr. Are Nylund, University of Bergen with “Scientific Misconduct.”

The day after Rick’s call, I headed for the Fraser River, where people were telling me thousands of salmon were floating down the river dead – eggs still inside them. I sent samples to Dr. Kibenge, head of the international reference lab for ISA virus in Prince Edward Island. Three came back pos-

itive: a coho, a 25-pound white Chinook and a silver-bright chum salmon. Four species — 600km apart — two generations — ISAv positive. I was thunderstruck.

Simon Fraser University held a press conference to alert other scientists so more testing could be done. Where was this coming from, and what is it doing to wild salmon? Given the history of the disease, it was natural to turn to the 92% Norwegian-owned salmon farming industry currently raising millions of Atlantic salmon along almost every south coast BC wild salmon migration route.

***Infectious Salmon
Anemia virus is a fish
influenza that has
turned up everywhere
in the world where
Atlantic salmon
are farmed.***

An international argument at the highest levels of government ensued. Canada was angry with us. In the BC legislature, the Provincial Minister of Agriculture said we were reckless and that the samples had been destroyed, preventing retesting by government. This was not true. The Canadian Food Inspection Agency fanned out and took possession of the samples that were still in Canada. The Minister has never apologized.

The federal Minister of Fisheries and Oceans released a statement saying “...Canada’s reputation has needlessly been put at risk,” that they retested all the samples and “...none have tested

positive for ISA.” But this statement was inaccurate as well.

U.S. Senators from Washington state and Alaska put out a press release stating: “We should not rely on another government — particularly one that may have a motive to misrepresent its findings — to determine how we assess the risk ISA may pose to American fishery jobs.” The U.S. Senate quickly passed legislation calling for an investigation and rapid response to prevent the spread of a potentially deadly salmon virus.

At this point an extraordinary thing happened. The federal Cohen Commission investigating the decline of the Fraser sockeye decided to recall the lawyers and reopen for three unscheduled days of hearings in December. The very interesting thing about the Fraser sockeye is that only the runs known to migrate north out of the river, past all the salmon farms off Campbell River, are in decline. The run that travels to sea around southern Vancouver Island has been increasing over the past 18 years. Furthermore, DFO’s own scientist, Dr. Kristi Miller found that the millions of Fraser sockeye dying on the riverbank before spawning appear to be fighting a virus. Genomic profiling cannot identify the virus, but it can show the cellular response to a virus. Miller should have been awarded the Order of Canada for providing this finding about Canada’s most valuable salmon, but as soon as her data suggested salmon farming might be the culprit, her funding was cut and she was redirected away from sockeye. Her testimony at the August 2011 Cohen hearings drew crowds of media and the public, because her information was so interesting, but she was flanked by security guards – no one was allowed to speak to her. She is still not allowed to speak to the media.

Continued on next page

Continued from previous page

For the December hearings the Cohen Commission put together two panels of witnesses. One was the scientists who did the tests: Dr. Are Nylund from Norway, Dr. Fred Kibenge of the World Organization of Animal Health ISA virus reference lab in Prince Edward Island, Canada, Dr. Kristi Miller, head of the DFO genomic lab in Nanaimo, BC and Ms. Nelle Gagne, who did the tests on the confiscated samples in the DFO Moncton lab. The second panel consisted of Fisheries and Oceans Canada (DFO) and the Canadian Food Inspection Agency (CFIA) running the ISA virus investigation. Dr. Stephen Stephen, Director of Biotechnology and Aquatic Animal Health Sciences (DFO), Dr. Peter Wright, Moncton, DFO, Dr. Kim Klotins (CFIA) and, oddly, a DFO sea lice scientist Dr. Simon Jones, DFO Nanaimo.

From the moment the hearings opened one revelation after the next poured into the public domain. We learned the Moncton lab, which DFO calls their “official” lab, uses a diagnostic machine known to have problems detecting low levels of ISA virus. We heard that contrary to what her Minister announced, Nelle Gagne of the Moncton lab did get a weak positive ISA virus result.

The other three members of the scientific panel all demonstrated credible test results that some form of ISA virus is in British Columbia. The findings were consistent between labs. While some tests were strongly positive for European strain ISA virus, there appears to be a unique BC strain. The history of the virus is unclear, as these tests are so precise that if the virus has mutated, results become inconsistent. ISA virus is an influenza known to mutate.

Dr. Nylund testified that 80-90% of Atlantic farm salmon test positive for

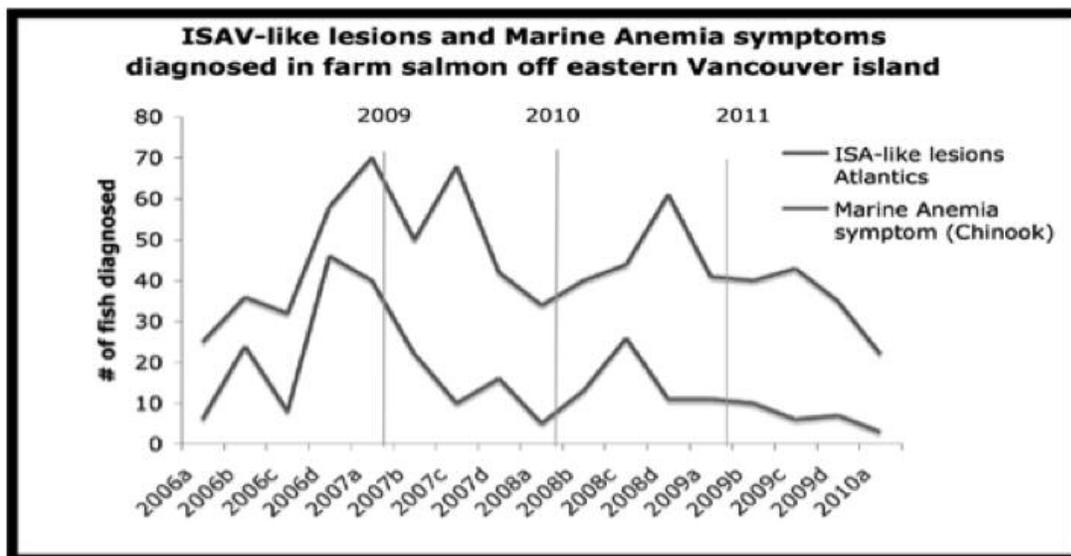
ISA virus when their eggs are taken. A DFO website reports BC has received 30 million Atlantic salmon eggs since 1986. Prior to that, there were several horribly misguided efforts to actually introduce Atlantic salmon to BC rivers beginning in 1900. So the chances are high BC has received the ISA virus repeatedly.

The mother strain of ISA virus, HPR0, is apparently non-lethal to Atlantic salmon. This strain moves easily around the world because it can be detected via a technique called RT-PCR, but it cannot be cultured. The Canada government does not recognize ISA virus unless it can be cul-

audit, with the highest numbers of fish affected in the spring of 2007. While he testified these symptoms might have been caused by something else, Miller found the young sockeye passing these sites tested positive for ISA virus. Dr. Marty testified his PCR tests results were negative, but we learned he does not use the internationally recognized PCR tests and did not provide details.

The laser-beam precision of the PCR test can easily miss the ISA target if it is not properly used.

The most disturbing finding of the December hearings was that Fisheries and Oceans has been hiding positive



The upper line on the graph indicates the ISA-like lesions, the lower line shows Marine Anemia symptoms. The a, b, c, and d after the years on the x axis indicate quarters. Graph courtesy Raincoast Research Society.

tured. This is a serious loophole, because scientists have mapped HPR0’s mutations in the abnormally high densities in the farms, deleting a portion of the RNA, and becoming virulent. Prior to salmon farming, BC may only have received HPR0.

Under intense questioning we learned Dr. Miller was told not to test for ISA virus, but she persevered and found it in farm Chinook salmon in Clayoquot.

As a participant of the Cohen Inquiry, I examined and graphed the farm salmon records kept by the government fish farm vet, Dr. Gary Marty. He reported “classic” symptoms of ISA virus in nearly every salmon farm

ISA virus test results for 6 years. Sea lice scientist, Dr. Simon Jones, involved in disproving impact of sea lice for years, had co-authored a study that got ISA virus positive tests in 116 salmon in 2002/3 including an Atlantic salmon, Chinook from Alaska and near Vancouver Island, pink salmon and, unbelievably, 100% of 64 Fraser sockeye from Cultus Lake.

These results had been confirmed by Dr. Kibenge, and it was Kibenge that broke ranks with Jones to make the work public for these hearings. ISA virus is an internationally reportable disease, but the Americans didn’t know



Continued from previous page

there were positive ISAv results for salmon caught in Alaska. DFO never told the Stó:lō First Nation, whose territory includes Cultus Lake. They never told the Cohen Commission, which required Canada to produce all documents related to the Fraser sockeye. They never reported this to the World Organization for Animal Health – even though Canada is a signatory nation and ISAv is reportable. They gave no credible answer why they had hidden these test results. They just said they didn't believe the tests.

The bad news went on. Dr. Miller's lab also found evidence of the new emerging Norwegian farm salmon virus called Hearth and Skeleton Muscle Inflammation (HSMI). She testified to also finding this insidious virus in the failed 2007 Fraser sockeye smolts. While government reported the salmon that tested positive for ISA virus were "healthy," Miller's lab has the ability to read cellular activity, and she presented evidence these positive fish were in fact fighting the flu.... ISAv is a form of flu.

Miller also updated testimony given in September, where it was indicated that BC salmon farmers would work with Miller to allow her to test their fish. But now we hear the talks veered off course, with the BC salmon farmers offering only to become partners in Miller's sockeye health research. No Atlantic salmon testing. So, Miller testified, she went to the government salmon farm vet, Dr. Marty for Atlantic salmon tissue. He sent the samples so degraded they were useless.

Next up were the regulators, and everything began to make sense. It is simple. The Canadian government is working to protect trade, not wild salmon. In an email exhibit the CFIA says the Fisheries Minister's Office "may not understand that ISAV is no longer theirs." Because ISAv is such a serious international pathogen, the CFIA is now in charge of testing and reporting. However, the CFIA testified they have never heard of the Wild Salmon Policy – government's under-used tool to protect wild salmon. Nobody in government has the specific mandate to protect wild salmon from ISA virus. In fact, there are roadblocks

to that end similar to the ones Miller faces.

Several (CFIA) email exhibits seriously call into question the integrity and reliability of the agency's handling of the most lethal salmon disease known. A Nov. 4 CFIA email pondered whether to "advise all laboratories in Canada to not test any more samples of wild finfish for ISA." Another CFIA email stated:

"It is clear that we are turning the PR tide to our favour - and this is because of the very successful performance of our spokes at the Tech Briefing yesterday - you, Stephen, Peter and Paul were a terrific team, indeed. Congratulations!

One battle is won, now we have to nail the surveillance piece, and we will win the war, also." (CFIA email Nov. 9)

This disturbing choice of words prompted Commission lawyer Brock Martland to ask:

"... instead of this being a collective enterprise where people are trying to learn the truth of a situation, this is a hockey game and we're wearing red jerseys and we want to score on the other goal. Is it an adversarial thing? Is the CFIA going into this out of concern for trade partners and other interests with a view to however we get there to announcing there is no ISAv?"

In his final argument my lawyer, Greg McDade writes:

"The Ministers' two statements, dated November 9 and December 2, 2011, were

- 1) misleading on the matters disclosed and under the circumstances, were*
- 2) highly misleading in the failure to disclose the further findings of ISA in*

additional samples."

"This protective reaction clearly permeates the entire senior management staff at DFO, and demonstrates yet again why promotion of the aquaculture industry has corrupted DFO's mandate to protect wild salmon."

In answer to lawyer Krista Robertson, acting for the First Nations of the Broughton Archipelago, we are tipped off to the gravity of this situation for Norwegian fish farmers in BC:

DR KLOTINS: *"...So if, let's say, we do find ISA in B.C. and all of a sudden markets are closed, our role [CFIA] is then to try to renegotiate or negotiate market access to those countries. Now what it will be is a matter of they'll let us know what the requirements are. We'll let them know what we can do and whether we can meet that market access. If we can't meet it, then there will be no trade basically."*

I don't know when the Canadian government lost control of salmon farms, but clearly the winds of trade have caught their sails and taken the helm. They have run afoul of trade laws and are dragging anchor through the most valuable wild fisheries on earth with no mechanism for change. My suggestion is we turn to ourselves for wild salmon health monitoring. Wild salmon are perfect and only need us to get out of their way. I propose linking all wild salmon groups, do the testing ourselves and go back to society to find solutions. We need to become our own people's Department of Wild Salmon, and this is what I am working on now. If we are really intelligent and use everything we know, we can give wild salmon the fighting chance to survive.

If we want wild salmon it is up to us.



The Osprey on the Web

The Osprey now has its own website, <http://www.ospreysteelhead.org/>.

Learn about our history, check on the status of wild steelhead and salmon populations and download past copies of *The Osprey*.

To donate to *The Osprey*, go to: www.fedflyfishers.org and click on the "Support Us" tab under the "Home" tab. Be sure to specify your donation is for *The Osprey*.

Also, check out our blog at: <http://ospreysteelheadnews.blogspot.com/>

Idaho Salmon Update

By Greg Stahl

— Idaho Rivers United —

Greg Stahl is the Assistant Policy Director at Idaho Rivers United. His e-mail is greg@idahorivers.org. The web-site is www.idahorivers.org.

It's been 26 years since Kerry Brennan caught his first steelhead in the Salmon River near the central Idaho town of Whitebird. Since then this white-haired, bearded mountain maverick has earned the reputation of being one of the most accomplished and successful steelhead guides on the Salmon.

As owner of Rapid River Outfitters in Riggins, Brennan has logged thousands of hours on the Salmon and knows its subtle currents. "I caught my first Salmon River steelhead in November of 1986—a 33-inch hatchery fish," he said. "This is special up here. In Idaho you can be in the mountains and catch steelhead. They come farther in. This river runs clear and fishable longer than any other I've heard of. We're blessed with a six-month season here most years."

But it's not what it used to be. Scientists estimate that several million wild steelhead and salmon once returned every year to the Snake River and its largest tributaries, the Clearwater and Salmon rivers. By the 1950s, after decades of habitat destruction, industrial over-fishing and dam building on the Columbia River, the number of wild steelhead and salmon returning annually to the Snake River basin had already dropped to 200,000 annually. By the 1970s, after construction of four dams on the lower Snake River that further impeded migration to and from the Pacific, populations plummeted.

Wild steelhead and salmon now return to Idaho at a rate of less than 2 percent of their historic vigor, and this tragic decline has had an unmistakable impact on the state's people, places and economy. From its mountains to its deserts, and across all its socioeco-

nomie strata, Idaho is a diminished place without them.

"We wouldn't even have a sport fishery without hatcheries," Brennan said.

Returns

In the massive Columbia River Basin, the Snake River once produced almost half of all the summer steelhead and spring/summer Chinook. And in that universe of salmon-rich tributaries, the Salmon River alone produced 39 percent of all the spring/summer Chinook in the entire Columbia Basin. It's an amazingly productive tributary as long as the migratory path to the Pacific is open.

"So the bottom line, especially for the

If salmon and steelhead can't flourish in central Idaho then they probably can't flourish anywhere.

folks who like to de-emphasize the importance of lower-Snake River dam removal, we're missing the biggest single opportunity in the entire Columbia system to recover salmon and steelhead," said Bert Bowler, a retired Idaho Department of Fish and Game fisheries biologist. "The habitat is intact and protected, but we've got to deal with the migration corridor. There's feeding habitat in the ocean, and there's spawning and nursery habitat in the tributaries of the Snake River Basin, especially in Idaho's Salmon River."

The Snake River's coho salmon were declared extinct in 1986. In 1991, Idaho's sockeye salmon were listed under the Endangered Species Act as endangered. Chinook salmon were list-

ed as threatened in 1992, and steelhead were similarly listed in 1997. Rivers that once teemed with fish so thick they bore the appearance of a walkable surface are now nearly empty, and central Idaho is increasingly bereft of a species and piece of culture that helped shape its identity. Gone is the transformative abundance that fed an entire ecosystem.

"If salmon and steelhead can't flourish in central Idaho they probably can't flourish anywhere," Bowler said. "The difference between the abundance from the days of Lewis and Clark to now is just—well, it's not even comparable."

Compared with the 1980s when an average of 28,000 wild and 65,000 hatchery-raised steelhead returned to Idaho each year, returns of the past few years have improved modestly, but as Brennan pointed out, the majority of returning fish are now raised in hatcheries. From 2001-2002 to 2010-2011, an average of 25,000 wild and 168,000 hatchery-raised fish returned. In 2010-2011 about 42,000 wild steelhead compared with 150,000 hatchery-raised fish swam into Idaho's abundant spawning waters.

These ratios are unacceptable, Bowler said, and do not constitute recovery under the Endangered Species Act. The National Oceanic and Atmospheric Administration hasn't set official numbers to define recovery, but Bowler estimates about 90,000 wild steelhead would be needed to remove the species from the ESA.

Returns of spring/summer Chinook salmon have improved modestly in recent years, too, though are far short of recovery. In 2011 about 22,000 wild Chinook compared with about 74,000 hatchery-raised fish returned. Bowler estimates recovery would require about 80,000 returning wild Chinook.

Moreover, recent returns have benefited from improved ocean conditions, improved spring flows for the ocean-

Continued on next page

Continued from previous page

bound migration, and the court-ordered spill of water over the dams and through reservoirs on the lower Snake and Columbia rivers. When ocean conditions and river flows take a turn for the worse, fish returns will undoubtedly slip.

Legal Update

Last summer, Idaho's wild steelhead and salmon won a significant victory in U.S. District Court in Portland. In a strongly worded opinion, Judge James Redden ruled on Aug. 2, 2011 that the federal government's most recent salmon recovery blueprint for Columbia-Snake river salmon was insufficient and illegal.

Specifically, Redden declared that the National Oceanic and Atmospheric Administration's Fisheries Service failed yet again to produce a legal and scientifically sound plan that protects endangered Columbia and Snake rivers steelhead and salmon from the lethal impacts of federal dams. It was the fourth NOAA salmon plan overturned in 20 years.

It was a landmark decision for steelhead and salmon and a big win for the people of the Pacific Northwest and Idaho. Fifteen fishing and conservation groups including Idaho Rivers United and the Federation of Fly Fishers, along with the state of Oregon and the Nez Perce Tribe and others challenged the plan in court.

"There's no downside for Idaho in the judge's ruling, although some politicians will complain," said Tom Stuart, an Idaho Rivers United board member and avid Idaho fisherman. "I hope it leads to meaningful talks, where people can sit down and find a legal, scientifically sound plan that will actually restore Idaho's wild salmon. The judge has said the federal government must follow the law. That is something all Idahoans ought to cheer."

In his decision, Redden called on NOAA to produce a new or supplemental plan that corrects the current one's reliance on unidentified mitigation measures for populations that have been on the fence for decades.

"It is one thing to identify a list of actions, or combination of potential actions, to produce an expected sur-

vival improvement and then modify those actions through adaptive management to reflect changed circumstances," Redden wrote on page 16 of the decision. "It is another to simply promise to figure it all out in the future. Federal Defendants need not articulate every detail of a habitat mitigation plan. They must do more than they have here."

Earthjustice attorney Steve Mashuda, who represented fishing and conservation groups in the case, called the win a "victory for the nation and the Northwest."

"We're extremely pleased with the judge's decision, but the work doesn't stop here," he said. "Now this region and this administration have an opportunity to change direction and to bring people together to solve this longstanding debate. We hope the President, his team and the region will grab hold of this once-in-a-lifetime opportunity and build a solution that can serve as a model for the rest of the nation."

Stuart said the decision is an opportunity to look forward rather than back and to embrace sound science and the law as stakeholders in the region sit down to work out lasting solutions.

"With this decision the time is right for the Obama administration and our senators and representatives in the Pacific Northwest to take action," Stuart said. "It is time for our lawmakers to take ownership of this issue and craft a path for our future — one that has healthy salmon runs and healthy rivers. This decision clears the way to consider more seriously removing the four obsolete dams on the lower Snake River, which are killing salmon and steelhead in huge numbers and bleeding rural Idaho economies and the state's ecological and cultural heritage."

In his decision, Redden stated that the NOAA plan does not pass a legal test, but it also doesn't pass a reality test. Without major changes to the federal dam system on the Columbia and Snake rivers, the reality is that the American people will lose one of their most valuable natural and economic

assets.

"Forty years ago places like Idaho's Salmon River were salmon strongholds, with huge numbers returning every year," Stuart said. "Now central Idaho has become a potential Noah's Ark, only one of a few remaining places where wild salmon can still thrive, and where restoring them is still possible. Judge Redden's decision represents strong support for restoring Idaho values, traditions, ecology and heritage."



The upper Salmon River basin was once a stronghold for spawning Idaho salmon and steelhead. Photo by Jim Yuskavitch

This is something Idaho's rural businessmen like Brennan know well. Many depend on fishermen and the business they generate for economic vitality. They depend on retaining and restoring this vital part of Idaho's heritage.

"These fish are unique on a global scale," Stuart said. "Some of them swim more than 900 miles and climb nearly 7,000 feet to reach their spawning beds in the Sawtooth Valley. They're certainly an important economic asset to numerous rural Idaho towns, but the miracle of salmon — and the importance of Idaho to their recovery in the Columbia River basin — can't be overstated."

In addition to requiring a rewritten Biological Opinion (BiOp) by Jan. 1, 2014, Redden's decision requires the federal government to continue spilling water to help flush baby fish from their rearing habitat in Idaho and eastern Oregon downstream to the ocean.

"As I have previously found, there is ample evidence in the record that indi-

Continued on next page

Continued from previous page

cates that the operation of the FCRPS (Federal Columbia River Power System) causes substantial harm to listed salmonids," Redden wrote.

And as was consistent throughout his 24-page ruling, Redden expressed doubts about the government's habitat improvement strategies.

"As noted, I continue to have serious reservations about NOAA Fisheries' habitat mitigation plans for the remainder of this BiOp," he wrote. "Everyone agrees that habitat improvement is vital to recovery and may lead to increased fish survival, but the lack of scientific support for NOAA Fisheries' specific survival predictions is troubling."

Stuart put it this way. "The judge's ruling is a victory for Idahoans," he said. "We're grateful, but we're not surprised. The judge simply followed the law."

Judge Redden Steps Down

In addition to issuing his landmark ruling in August, Redden's actions marked another turning point that unfolded on Tuesday, Nov. 22, 2011 when he announced he would step aside as the judge who has presided over the case for nearly 15 years.

"Judge Redden has done more for wild salmon than three presidents, five federal agencies and 10 Congresses combined," said IRU Executive Director Bill Sedivy. "By demanding that federal salmon managers follow sound science and the law, he has been a tremendous force in slowing the extinction of wild salmon in Idaho and the Northwest."

In striking down salmon plans in 2000, 2004 and 2011, Redden articulated that the law is on the side of salmon, salmon businesses and salmon advocates and that federal salmon managers haven't done enough.

Picking up the case file is U.S. District Judge Michael Simon, an Obama appointee who worked on former Oregon Congressman David Wu's staff. Sedivy said he is confident that Simon will follow the law as well.

"Our salmon and steelhead haven't had much help over the years from Northwest political leaders or the agencies charged with protecting them," Sedivy said. "But thanks to

Judge Redden, Mother Nature and a tireless group of advocates, they're still here.

"With Judge Redden stepping away, we hope that federal salmon managers will review his August ruling and make needed changes to the biological opinion driving salmon management and recovery measures. If they do that, we can build a collaborative, science-driven process for the region's stakeholders, build solutions that work for people and fish, and resolve the Northwest salmon and steelhead crisis once and for all."

A Push for Collaboration

In late-November 2011 more than 50 members of Congress wrote President Obama to request that he convene a stakeholder-driven, collaborative process to end the 20-year cycle of litigation. They're part of a growing chorus of voices calling for collaborative solutions to this unresolved issue.

In their letter the bipartisan contingent of 52 House members asked the president to "help resolve long-standing issues surrounding the protection and restoration of salmon and steelhead in the Pacific Northwest."

"This forum would bring together all stakeholders to develop scientifically-sound and fiscally-sustainable salmon recovery options for Congress and the Administration," they wrote.

Neither Idaho congressman, Rep. Mike Simpson (R) or Rep. Raul Labrador (R), signed the letter.

Idaho's two senators, however, have issued similar, independent calls for collaboration. Sen. Mike Crapo (R) called for a process during a Boise speech in May 2009, and Sen. Jim Risch (R) pointed out the benefits of a collaborative approach in a guest opinion published with Trout Unlimited's president in the (Portland) *Oregonian* on Nov. 6, 2011.

"We're thrilled to see more members of Congress join the calls from our Idaho senators, and others, in seeking broadly-supported solutions for our endangered salmon," Sedivy said. "The fish can't afford another decade of legal wrangling, and collaboration promises the surest avenue to resolve this issue."



Riggins, Idaho guide Terry Brennan is one of many people whose business depends on salmon and steelhead. Photo by Greg Stahl.

Continued Optimism

Meanwhile, the people of Idaho's small rural towns like Lewiston, Riggins, Salmon, Challis and Stanley continue to work to make ends meet amidst the turmoil centering on the lower Snake River's salmon-killing dams.

Gary Lane owns Wapiti River Guides, a commercial outfitter just down the road from Brennan's place in Riggins. He said it can be difficult to remain hopeful for salmon and steelhead recovery after 20 years of cyclical legal wrangling. Recent developments, however, constitute a distinct window of opportunity to chart a new course.

"What makes me optimistic is, look how resilient these fish are," he said. "Look at how they've rebounded in places where the dams come out. You can't mess around forever, but there's plenty of reason for hope."

Half of Lane's business comes from steelhead fishing. For Brennan, that number stands at 100 percent. Without salmon and steelhead both of these small Idaho businesses would vanish.

"And it's not just the outfitters," Lane said. "You can see it during fishing season: the cars lined up, the people lined up on the bank, the restaurants filled, the hotels filled. Steelhead and salmon are big business up here."





Puget Sound: Past Present and Future

By Will Atlas

— Federation of Fly Fishers Steelhead Committee —

Will Atlas is a graduate of the University of Washington in fisheries and is now a graduate student at the Simon Fraser University Department of Biology. He is an avid steelhead angler and spey caster as well as Chair of the Steelhead Committee and The Osprey's editorial board.

Perhaps more than any other region in the Pacific Northwest, Puget Sound exemplifies the challenges and opportunities associated with protecting and restoring wild salmon in the 21st century. Now home to more than 4 million people, the Puget Sound region is among the fastest growing urban areas in the country. It is also home to all five species of Pacific salmon, winter and summer steelhead, as well as anadromous bull trout and coastal cutthroat trout.

Formed by the recession of the Cordilleran Ice Sheet more than 10 thousand years ago, this glacial legacy left the Puget Sound region laced with rivers, which, upon descending from their mountainous headwaters, enter the Puget Sound lowlands where they once meandered at will across broad glacial valleys. In these valleys, salmon once thrived in a rich tapestry of flood plain habitats formed by the unimpeded linkage of riparian forest and river, which created a vast network of sloughs, oxbow ponds, ground-water channels and stable braided reaches of river. This abundance of river habitat coupled with the 1,300 miles of healthy Puget Sound shoreline provided a nursery for some of the most abundant and diverse populations of salmon and steelhead on the planet.

As late as the 1890s, the large rivers of the region, which drained from the Cascade crest to the Puget Sound lowlands, supported almost unfathomable numbers of wild salmon and steelhead. To the settlers flooding into the Puget Sound country in the late 19th Century, there was a sense of inexhaustibility to the plentiful resources, which sur-

rounded them, and they quickly began the task of cutting timber, harvesting fish and altering the landscape to meet expectations and needs of agriculture and urban growth. Marshes and sloughs were drained, old growth cedar, hemlock and Douglas fir logged along the valley bottoms, and rivers and tidal flats were diked and filled to create fertile farmland. In 1876, a log jam spanning almost 2 miles of river was removed from the Lower Skagit River by the Army Corps of Engineers to accommodate shipping traffic, and in 1916 the Black River, the traditional outlet of Lake Washington, disappeared entirely with the creation of the ship canal. While these tremendous feats of engineering offer the greatest examples of the pressures industrial civilization placed on the rivers of Puget Sound, the cumulative effects of countless smaller harms were far greater.

Early settlers also proved extremely adept at harvesting salmon and steelhead. The Wild Salmon Center published a paper authored by Nick Gayeski and Bill McMillan, of the Wild Fish Conservancy, in collaboration with Pete Soverel, founder of the Wild Salmon Center, which estimated steelhead abundance at the close of the 19th Century based upon early catch records for the US Fish Commission and other sources. The authors estimated that steelhead harvest peaked in 1895, when about 450,000 fish were harvested. The authors then modeled possible harvest rates to estimate a range of abundances for individual Puget Sound populations in 1895 (note that these populations had already been substantially reduced by excessive harvest): Puget Sound total: 485,100-929,700; Nooksack: 101,400 - 169,000; Skagit: 70,000 - 149,000; Snohomish: 114,000 - 224,000; Stillaguamish 51,700 - 100,000; the remainder of Puget Sound: about 148,000 - 287,700. The Wild Fish Conservancy recently published an expanded version of this paper, based on additional work by the authors with Pat Trotter.

To put this in context, over the past three years, Puget Sound Rivers have seen record low returns of steelhead, but even before the most recent downturn, steelhead abundance in Puget Sound was at its low ebb. Between 1980 and 2004, what many modern anglers consider the “good” years for Puget Sound, total returns to the rivers of Puget Sound averaged 22,000 fish or 1-4% of the estimated historical abundance of steelhead in the region. In 2007, Puget Sound steelhead joined Chinook salmon as a threatened species under the Endangered Species Act, with the Puget Sound population less than 1% of the 1895 levels. Other salmon species have fared slightly better, but remain depressed significantly from historic levels.

The Crisis

No single factor has led to the decline of wild salmon in Puget Sound, but as habitat loss and over harvest have taken their toll on wild salmon populations, wild fish have gradually been replaced by hatchery production. Today, more than 70 state, federal and tribal hatcheries and net pens release hundreds of millions of hatchery fish into Puget Sound each year, undermining the viability of already threatened wild stocks. Despite concerns about the impacts of hatchery fish, these programs have continued largely unabated, even as state managers curtail catch-and-release angling for steelhead to protect fragile runs. Equally frustrating is the fact that for all their adverse impacts on wild populations, hatcheries are an extremely inefficient way of creating fishing opportunity. A State Auditor's report from 2010 showed that immature “blackmouth” Chinook caught in Puget Sound cost taxpayers an average of \$798 per fish. That same year WDFW spent \$52 million on hatcheries throughout the state, a number that dwarfs their expenditures on other far more pressing duties such as research, monitoring and enforcement. In an era of dwindling

Continued on next page

Continued from previous page

state budgets and declining wild salmon, this wasteful hypocrisy has to end. The state has begun the process of identifying Wild Salmonid Management Zones (WSMZ's), which are areas without hatchery salmon or steelhead to be protected as refugia for wild fish. The successful implementation of these WSMZs is an essential step towards the recovery of wild salmon and steelhead in the Puget Sound area.

Yet perhaps the least understood and most critical factor for the recovery of wild salmon and steelhead in Puget Sound and the wider Georgia Basin Region is what happens once fish leave for the ocean. Since the 1990s, the survival of juvenile salmonids at sea has been steadily declining, particularly for steelhead, and the last 5 years have brought record low returns to many rivers in Puget Sound. While biologists around the region have long recognized the importance of the marine environment for wild salmon and steelhead, the marine ecology of steelhead and the factors that determine survival in a given year are virtual unknowns. Poor marine survival is particularly frustrating in light of slow, continued improvement in freshwater habitat conditions in the Puget Sound and restrictive sport fishing regulations, which have all but eliminated sport fishing impacts on wild steelhead.

Since the early 2000s when research first began to document the impacts of open net pen salmon farms on wild salmon populations, there has been speculation that aquaculture may have a hand in the recent declines. Indeed, the declines in marine survival witnessed throughout the Georgia Basin overlap conspicuously with the growth of the aquaculture industry in British Columbia and to a more limited extent, the US. While it is equally probable that declines in marine survival are the product of climate driven cyclical changes in the productivity of Puget Sound's waters, or long term changes associated with anthropogenic climate change, recent revelations about the impacts of disease – possibly from salmon farms – on salmon populations in British Columbia have heightened concerns.

In early 2011, Canadian researchers

found evidence that a viral disease was causing upwards of 90% pre-spawn mortality in Fraser Sockeye; then last fall a flood of new information came forward. First was revelation that Infectious Salmon Anemia virus (ISAv), a disease that ravaged the Chilean salmon farming industry, was present in British Columbia, with fish from both River's Inlet and the lower Fraser testing positive for the disease. Then, came news that researchers with the Canadian Department of Fisheries and Oceans had known 8 years ago about the presence of ISAv in BC's waters and were muzzled by their superiors.

While both revelations are cause for concern, the reality is, at this point we know very little about the disease ecology of wild Pacific salmon. US agencies have responded quickly to the news of ISAv's presence in BC, establishing an interagency task force and a comprehensive plan to test populations of salmon in Washington and Alaska for the disease. The degree of urgency and the rapid response by state and federal agencies is extremely encouraging; however we mustn't lose sight of the forest for the trees. It may well be that ISAv is in fact endemic to the waters of the Pacific, but has been previously undocumented, highlighting the present lack of knowledge on native pathogens and their role in salmon survival. Gathering more data and expanding our knowledge about the linkages between wild salmon population dynamics and the presence of pathogens, and the degree to which disease transmission is facilitated by the presence of salmon farms is absolutely essential if we hope to implement policies that will increase the survival of wild salmon at sea.

What's Being Done

Scientists often refer to the four H's of salmon conservation, habitat loss, harvest, hatcheries, and hydro dams. While there are dams on several of the rivers in Puget Sound they have generally inundated only small portions of salmon's historically accessible habitat in the region. Efforts are underway to provide passage at several dams, and this year a nearly 20 year effort to restore the Elwha, Puget Sound's western most drainage, culminated with the removal of two dams — Elwha and

Glines Canyon. All told, these efforts will open more than a hundred miles of habitat for wild salmon and steelhead.

Projects like the Elwha are special because the impact is instantaneous and the payoff is so tangible. By next fall salmon should be able to access the river above Elwha Dam and by the following year fish will ascend the river to it's headwaters above Glines Canyon Dam; nearly 90 miles of newly available habitat. Projects like these are a once in a lifetime opportunity, but the reality is true recovery is a much longer slog. While human population growth and the attendant urbanization have taken a lasting toll on the rivers and estuaries of Puget Sound, much of the damage is reversible, given time, resources and a commitment from the citizens of the Pacific Northwest to restoring wild salmon.

It starts with protecting the habitat that already exists. Left to their own devices and protected from overzealous logging, road building and development, many watersheds are slowly healing on their own. As riparian forests slowly regenerate, they will increasingly function as they would have historically. One need go no further than some areas of the North Fork Skykomish, Sauk and Skagit rivers to see areas where an intact floodplain and riparian forest are allowing a river to function properly, creating ideal habitat for spawning and rearing salmon. While these areas are rare and must be protected, they serve as an important baseline for the recovery of watersheds within our region.

This year the Puget Sound Technical Recovery Team (TRT) released a draft document identifying historical sub-populations within Puget Sound. This document will serve as the foundation for the TRT going forward, as they work with state and local governments and Native American co-managers to craft a recovery plan for Puget Sound Steelhead. While this is an encouraging start, there is much work yet to be done. Can we work together, in the face of climate change and increasing human population pressure, to protect and restore wild salmonids within our region? The coming years will be telling for Puget Sound and, if successful, will provide a template for the recovery of wild salmon in our changing world.





More Troubles on the Thompson

By Greg Gordon

— BC Federation of Fly Fishers, Federation of Fly Fishers Steelhead Committee —

Greg Gordon is the secretary for the B.C. Federation of Fly Fishers and a member of the FFF's Steelhead Committee. Greg's most recent article for *The Osprey*, "Thompson River Tanked," appeared in Issue #70, September 2011. The website is www.bcfff.bc.ca.

When you're wrong, you're wrong: best to admit that up front. My last article for *The Osprey*, three short months ago, morbidly concluded with "... anglers will never again crawl the banks of the river seeking Thompson steelhead." As it turns out anglers are indeed again crawling the banks of the Thompson River.

In a stunning announcement on October 26th, the B.C. Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) opened the Thompson and Chilcotin rivers to sport fishing under, arguably, dubious circumstances. Suspiciously, this announcement came about 24 hours after the federal Department of Fisheries and Oceans (DFO) signaled the closure of the Fraser River to any possible commercial chum salmon net openings due to low returns of these salmon.

At that time, MFLNRO indicated that there was a 40% chance of meeting the abundance reference point of 850 Thompson steelhead as determined in the Albion test fishery, a number previously established as a conservation threshold for the opening or closing of the Thompson sports fishery and Fraser commercial chum fisheries.

In justification of the sport fishing opening, Rob Bison, the MFLNRO biologist stated: "Normally, productivity assessments are updated once spawning stocks have been estimated in the spring and the in-season forecast confirmed. However, productivity assessments that have been recently updated using the current forecast for the 2011/12 return are beginning to reveal that the stocks may be stabilizing at lower levels of abundance. It also

appears that the stocks are able to withstand the low level of fishing related mortality associated with the catch and release recreational fishery. It is not possible to foresee how long this new apparent stability will last. Historically, productivity has varied and declined dramatically since the early 1970s."

The MFLNRO announcement further admitted that at that point, interior Fraser steelhead escapement appeared to be following the trend of the previous three years: for the Thompson 600 steelhead; and for the

The Thompson River has been opened to sport fishing under, arguably, dubious circumstances.

Chilcotin River 290 steelhead. For the past two seasons there was sufficient management concern over dwindling escapement to close both sport fisheries.

Recently I had an opportunity to question Rob Bison, the MFLNRO steelhead biologist in charge of the Thompson River, regarding the newly applied productivity assessment methods used to reopen the two sport fisheries:

Q: Will you explain what the updated preseason productivity assessments are?

A: "The productivity assessment is an analysis whereby we [MFLNRO] track how the carrying capacity and productivity is changing over time. In this context, the carrying capacity is the average size of the stock if it were left unfished and allowed to stabilize in number. The productivity can be thought of as the ability of the stock to withstand fishing pressure. Fish stocks

do this by improving their survival rates when the stock is fished down in numbers. The data needed for such an assessment includes annual spawning population estimates along with estimates of the number of fish lost to various fisheries, along with estimates of the age composition. In recent years (since the late 1990s), most of the information about carrying capacity and productivity is contained in the annual estimates of spawner numbers. This is because fishing mortality rates have been low, but we still account for the losses to fisheries as a matter of procedure. We do this in various ways depending on the fishery and depending on the data available. It is not important to get into the details of the "reconstruction" procedures. The main point here is that in recent years, it is the spawning population estimates that are most important. And we have very good spawning population estimates for the Thompson."

Q: Why were these preseason productivity assessment methodologies not applied in previous years?

A: "The methods were published in the scientific literature in the early 2000s, 2003 in particular by SFU [Simon Fraser University] researchers working on Bristol Bay sockeye. DFO has since adopted these methods for Fraser sockeye assessment (2010), and we have followed suit. It has also taken some time for us to prepare the steelhead data, particularly the annual age composition data going back about 25-30 years. So unlike before, we are now in position to track the annual changes in carrying capacity and productivity. This is a good and timely advancement because we have come to understand that north Pacific steelhead and salmon do not maintain constant carrying capacities and productivities. These things change with climate cycling, they may change more permanently with climate change, and they change because of competition between stocks and between species

Continued on next page

Continued from previous page
while rearing in the ocean.”

Q: Were the newly applied productivity assessments utilized in determining the productivity status of the Chilcotin River, which opened to sport fishing concurrently with the Thompson? (In reviewing past steelhead escapement data for the Chilcotin it would appear as though escapement is anything but stable as has been suggested for the Thompson.)

A: “Yes. It so happens that the Chilcotin steelhead are trending ahead of Thompson steelhead, so there are actually more data about the current status of Chilcotin than there are for Thompson. Both appear to be stabilizing and settling at new and lower carrying capacities. There is no telling how long this might last, but we are set up to monitor and update on an annual basis if need be and if financed to do so.”

Q: It would appear that in utilizing such updated assessments, fewer steelhead are required as a lower reference benchmark in Albion test fisheries in order to open the sport fisheries and for the management of Fraser chum fisheries as detailed in fisheries management plans. Are there now lower benchmarks and what would they be specific to the Thompson (previously 850) and the entire Fraser watershed (previously 1250)?

A: “Not yet. This will be the subject of management discussions with DFO.”

Q: What is the mortality rate associated with the Thompson sport fishery?

A: “The average rate of mortality per fish captured and released is 3% based on hatchery broodstock capture records. When this rate is applied to the number of steelhead caught in the sport fishery, and then if you add-in the losses in downstream fisheries, you can then compute the fishing mortality rate on the stock (i.e. the proportion of the stock that dies from the catch and release sport fishery). Here is a typical scenario for recent years. The catch (and release) in the Thompson sport fishery generally equates to the abundance of Thompson fish, so on average

every fish gets caught once. That means that 3% of the fish that make it to the Thompson will die from catch and release. If the downstream losses prior to arriving to the Thompson amount to a 15% fishing mortality rate on the stock, then the fishing mortality rate on the stock from the catch-and-release sport fishery would calculate out to 2.6%. People also refer to this as the “exploitation” rate.”

While some of the theoretical machinations of a fisheries biologist remain on par with the mysteries of quantum physics, in this case the productivity assessment methods must be recognized for what they are: purely technical theories based upon assumptions.

Steelhead smolt production estimates are based upon parr observation in the Thompson mainstem. What differentiates a resident rainbow from a steelhead parr? Are there tributary specific steelhead spawning escapement requirement estimates? The big question: what about bio-diversity?

In referring to the River Finn in northern Ireland, Ori Vigfusson of the North Atlantic Salmon Fund (NASF) drew some interesting parallels to the current interior Fraser steelhead situation: “The Lough Agency has used models based upon minimum spawning escapement levels instead of listening to the NASF call for a return to abundance and the creation of a stronger population base through greater numbers. We at NASF criticize the narrow focus on egg deposition targets because rivers need far more spawning fish than are necessary to satisfy meager theoretical minimum levels.

“The practice of calculating backwards from juvenile habitat surveys to an estimation of required egg deposits is insufficient on its own, because it ignores the salmon's need for the diversity and protection against threats that abundant numbers provide. It also takes no account of the normal but highly variable occurrence of lethal weather, pollution, and other events that inflict high egg and fry mortality. There is good reason why salmon populations are prodigious when it comes to spawning. The fish deposit large numbers of eggs because so few of their ova survive and every season is different in terms of the

unpredictability of weather, damaging events, and water levels.

“It is not reasonable to ignore these diverse factors and assume that a one-fits-all scenario can be safely constructed on a computer which does not recognize what mother nature has been very successfully doing for the last ten thousand years. Given the current abysmally low number of adult salmon in many rivers, the only rational strategy is to maximize egg deposition from the current runs and to work simultaneously to re-establish the environmental qualities of the rivers.”

It should also be noted that with the sport fishery reopening, there were no additional restrictions placed on the fishery (i.e. bait ban) to minimize angler/fish interaction, as has been the case in similar circumstances for the rest of the province.

According to past radio telemetry studies, not all fish immediately ascend the Thompson; an unknown portion of the run over-winter in the Fraser River, so clearly sport fishers catch some fish more than once because the steelhead in the Fraser are largely out of reach. Further, there is the lack of data regarding the long-term implications of repetitive capture on steelhead, and hatchery broodstock collections—largely conducted by “professional” anglers—are not designed as mortality studies. An example: are all captured steelhead retained for broodstock purposes? Or are mortally injured steelhead returned to the water because dead steelhead will not serve any practical purpose?

Eight months ago, in a letter to DFO, MFLNRO unequivocally stated that Fraser steelhead populations “can no longer sustain any incidental fishing mortality.” MFLNRO further urged DFO to institute timing and gear changes to Johnstone Strait and Fraser River chum fisheries to address steelhead interception issues.

In a nutshell, MFLNRO insisted that instead of traditional gill nets and seines, the fisheries must become selective to allow for the safe release of by-catch. This was something that long needed to be said, something that enlightened fisheries conservation groups have been saying for decades and represented the salvation of these steelhead. The fact that such a state-



Continued from previous page

ment came from a branch of the provincial government was even more astounding. Clearly MFLNRO had a plan.

There's no denying that "the plan," the sport fishing closures, inflicted a disproportionate burden of Fraser steelhead conservation on anglers, upper river First Nations and struggling interior B.C. towns like Spences Bridge. Fishery conservation clearly needs to be a shared responsibility; however, the focus of the province at that time was to ensure the commercial industry adopted selective harvest methods to safeguard the release of incidental by-catch. Regrettably, the sport opening has signaled that no such change in harvesting methods is now necessary, and no adjustments need to be made to the aboriginal right to food, societal and ceremonial gill net fisheries, which also have a detrimental effect on the steelhead.

Unfortunately, interior Fraser steelhead often travel the same time and route as Fraser chum, either through Johnstone Strait (inside passage) or along the west coast of Vancouver Island (outside) and into the Fraser River on the journey to their natal streams. The diversion rate of Fraser steelhead, either inside or outside, is poorly understood.

How exactly did DFO answer the challenge of the MFLNRO plan? In the Johnstone Strait through late September and October, DFO authorized three gill net openings equaling 123 hours of mixed stock non-selective effort, some of which were smack on top of any steelhead which may have migrated through the inside passage. DFO assigns a by-catch mortality rate of 60 percent for these fisheries.

Further, Johnstone Strait seines targeting chum salmon were allowed 22 hours of effort in areas 12 and 13 in early to mid-October. The seines have a by-catch mortality rate of 25 percent according to DFO. Added to this mix of Johnstone Strait commercial fisheries were numerous troll fisheries with a by-catch mortality rate between 10 to 26 percent.

All of these commercial fisheries were required to release—alive or dead—all steelhead incidentally captured and were further required to have operational revival boxes on

board. It's not known at this time what the combined impact of all commercial fisheries might have had on co-migrating steelhead—nor will it likely ever be known with any degree of certainty—but clearly DFO didn't buy into the plan.

To make the murky piscatorial political waters more turbid, after the sport fishing opening announcement on October 26th, Fraser River chum escapement continued to build and on October 31st, DFO identified a surplus of chum and unleashed the Fraser commercial fishing fleet at a time when steelhead were still present in the lower system, likely to the chagrin of provincial steelhead managers. What followed were two "selective" (DFO terminology) commercial gill net openings (totaling 22 hours) and two aboriginal economic opportunity non-selective fisheries (63 hours) targeting chum salmon in river.

DFO terms the non-aboriginal commercial gill net openings "selective" as the nets employed are one half length of a standard gill net and the "soak" time, the actual time the nets are in the water, is supposed to be 30 minutes. This methodology is called "short set, short net" and DFO assigns a by-catch mortality rate of 40 percent to this method (on the South Coast). It should be noted that while the mortality rate associated with this fishery appears to be a considerable improvement over standard gill nets, (as mentioned previously, a 60 percent mortality rate) the attempt to rebrand gill nets as "selective" would be laughable if the situation weren't so desperate.

These commercial fisheries target chum principally for their roe, which commands a high price in Japan and other Asian countries as both sujiko (whole roe) and ikura (individual eggs). The rest of the salmon carcass can be used for pet food or fertilizer, but most often is discarded outright (drawing an interesting parallel to shark finning). Recent prices for ikura are in the neighbourhood of \$68 for 7.6 ounces, which gives some idea of the economic forces challenging interior Fraser steelhead conservation.

In reviewing the 2011-2012 South Coast Integrated Fishery Management Plan it's readily apparent that such plans do not adequately provide for the protection of interior Fraser steelhead

from marine and Fraser River commercial fisheries.

Within the Fraser River, the (DFO) management objective is to protect 80% of the interior Fraser steelhead run with a 90% certainty. Operationally, this translates into the potential opening of one Fraser River commercial chum fishery prior to October 15th, with the only limit after October 15th being the abundance of chum salmon. (The historical peak of Fraser steelhead at Albion is October 10th, the chum peak October 15th.) However, there continues to be concern for interior BC coho populations, and commercial fisheries may be restricted early September to mid to late October as a result.

The recent steelhead status update from MFLNRO indicates that the peak of this year's Fraser interior steelhead run occurred Oct.14th and a review of the Albion chum test data also indicates that steelhead were still present in the Fraser system as of Nov. 9th although it's not clear whether these fish were late summer runs or early winters. Clearly, management protection of interior Fraser steelhead needs a significant upgrade as this year the "bulk" of the steelhead run had a one-day "excuse me" theoretical window of opportunity to get past the chum nets.

Instead of initiating recovery planning or a species at risk listing, the province apparently lowered or abolished conservation thresholds and reinstated a targeted fishery over steelhead populations at historic lows. In the short term, such an action allows DFO to carry on as before—pandering to their clientele, too—business as usual extracting the last drops of economic blood possible from the resource, damn the consequences.

Among steelhead sport fishers, wild steelhead advocacy suffered yet another split between those in disbelief of the situation, and therefore refusing to participate, and those apparently chanting the mantra of unlimited access at all costs.

MFLNRO bailed big time on interior Fraser steelhead. Hopefully Mother Nature can step up because it doesn't appear she's going to get much help.





The Willapa Basin Salmon Factory

By Ron Nanney

— *Wild Steelhead Coalition* —

Ron Nanney is SW Washington Representative for the Wild Steelhead Coalition. The website is www.wild-steelheadcoalition.org.

Willapa Bay, situated on the southwest Washington coast, is well known for its thriving oyster industry and pristine, unpolluted waters. The second largest estuary on the Pacific coast, its freshwater flows from about a half-dozen smallish streams that are home to historical populations of steelhead and cutthroat trout, and Chinook, coho, and chum salmon. Names such as Naselle, Nemah, Palix, and Willapa reflect the heritage of the area, and the native peoples that were dependent on the abundant salmon runs before outside settlement began in the 1850s.

Unfortunately, decades of intensive logging and overfishing have taken their toll on the wild stocks in the basin. Unlike their northern counterparts on the Olympic Peninsula, Willapa Bay streams have few public lands adjoining them. Nearly all of the watersheds are surrounded by private forestlands and suffer from habitat degradation as a result. Declining salmon runs led to the construction of hatcheries, with the first on the Willapa River (Forks Creek) constructed in 1899, followed by facilities on the Naselle and Nemah by the 1950s. Hatchery production of Chinook and coho was commonly supplemented with eggs from out of basin stocks.

Commercial fishing has historically been the driving force in fisheries management in the basin, with conservation and preservation of wild stocks coming in a distant second. With no tribal treaty obligations or ESA listed stocks, and abundant access for the commercial fleet, the Washington Department of Fish and Wildlife (WDFW) has long considered the basin and its hatchery programs to be the ideal “salmon factory.” In addition to a robust gillnet fishery, Willapa salmon are harvested offshore in both U.S. and

Canadian waters, making these hatchery programs valuable bargaining chips in offshore salmon allocation negotiations. Hatchery production of 7 million Chinook and nearly 2 million coho have frequently resulted in huge surplus returns. Poor fish collection facilities and high water events have also led to high stray rates. While these massive out-plants of Chinook and coho stocks have provided harvest opportunities for commercial fleets, the decades of intermingling wild and hatchery stocks on the spawning beds has resulted in the near elimination of the native genes for these species.

The independent Hatchery Scientific Review Group (HSRG) completed its assessment of Willapa Basin hatchery management in March of 2004 and, recognizing that most of the naturally spawning Chinook and coho were of non-native stock in these rivers, recommended that hatchery programs be sized appropriately, so that “natural fish constitute an average of at least two-thirds of the naturally spawning population.” (HSRG, March, 2004, pages 81,92) In addition, it was recommended that rivers be identified with primary populations of Chinook and coho and that those populations be managed for wild fish recovery. Recovery, they believed, would be accomplished by gradually decreasing the numbers of hatchery fish spawning in the wild, with the long-term goal of establishing a locally adapted stock of wild fish.

As a result of the HSRG's recommendations, and consistent with WDFW's 21st Century Salmon and Steelhead Initiative, the WDFW has developed a Willapa Bay management plan that attempts to meet the management goals outlined by the HSRG.

Naselle River Chinook and Willapa River coho have been identified as “Primary Populations” to be managed for wild fish recovery, requiring dramatic reductions of hatchery releases in those streams to achieve the goals of reduced intermingling of hatchery and wild fish on the spawning beds. The key to this strategy is to maximize the

number of naturally spawned fish returning to each stream and allow an appropriate number of hatchery fish upstream as supplementation. But, without facilities capable of controlling hatchery straying, the numbers of fish released and the harvest of hatchery fish are the only tools available to control the ratio of wild and hatchery fish on the spawning beds.

Naselle River Chinook production has been reduced to 500,000 from the previous 3 million, and Willapa coho production has been cut in half, from 600,000 to 300,000. While this would appear to be a step in the right direction, WDFW's unwillingness to lose hatchery production resulted in the exploitation of a “loophole” in the HSRG's Report. By reducing hatchery production of the identified “Primary Population” species at each hatchery, it was determined that there were no restrictions on production of other species in those watersheds. Therefore, lost production for the basin could simply be transferred to one of the other Willapa hatcheries. As a result, lost Chinook production at Naselle was transferred to the Nemah and Willapa hatcheries, and lost coho production was transferred to Naselle. With this elaborate shell game, there was no net loss of hatchery production. The Naselle hatchery alone is expected to produce 1.4 million coho per year, a staggering number for such a small watershed. The pressure to harvest these fish makes it unlikely that commercial seasons will be managed in a way that ensures that wild fish escapement is large enough to promote recovery in the “Primary Population” streams.

The steelhead has long been revered as the prized recreational fish in the Willapa Basin. Viable populations of wild fish can be found in nearly every stream, with the Willapa, North, Nemah, and Naselle rivers being the most well known. Modest hatchery plants of Chambers Creek stocks (25,000) are still made in the Willapa and Naselle rivers, but are much

Continued on next page

Continued from previous page

reduced from the heydays of the 1970s and 80s, when huge hatchery plants brought hordes of fishermen to “just below the hatchery” fisheries. Wild stocks, while only a fraction of their historic numbers, have been holding on in relatively stable numbers since the adoption of wild steelhead release in the late 1990s, with the entire basin now averaging just under 4,000 fish per year.

There is cause for concern, however, that these numbers may not be sustainable given the pressures placed upon them by intense hatchery production of other salmonids. WDFW’s “Salmon First” management tendencies still treat steelhead as second-class citizens. Without commercial interests lobbying for their protection, steelhead are managed through recreational harvest and season setting guidelines alone, with little consideration for the pressures that are applied by hatchery production of other salmonids. Early components of the wild steelhead run, once common in November and December, are subjected to high rates of incidental by-catch in November gillnet fisheries targeting late-run hatchery coho. This, combined with mortality from bait-allowed sport fisheries, makes recovery of this component difficult.

Although limited information is available concerning the ecological effects of these hatchery programs on wild steelhead, predation by hatchery smolts on wild juveniles cannot be dismissed. The April 2004 HSRG Report downplays this possibility stating, “The high potential for encounters between hatchery-reared predators and wild salmonid prey in freshwater environments may be tempered by the fact that hatchery-reared smolts generally spend very little time in rivers before migrating to sea. Although we are unaware of any published data on residence times of hatchery-reared smolts in freshwater, it is widely believed that the majority of these fish migrate out of rivers very quickly. Recent work in Willapa Bay tributaries suggests that over 95% of steelhead, coho, and Chinook smolts leave the immediate area of release within several hours.” (Riley et al. 2001 as cited in HSRG, April, 2004, page B52) However, the report further states

that, “The relative sizes of downstream-migrating smolts or fry of different species of salmonids in Washington suggest that several possible predator/prey combinations are likely to occur. Virtually all *Onchorhynchus* species could be potential prey for larger salmonids in freshwater when they are small, but those that migrate to sea at a small size are probably most vulnerable because they become concentrated in the downstream reaches of rivers. The relative vulnerability of wild juvenile salmonids to predation in freshwater depends on the release location of hatchery fish; if fish are released near the mouth of the river, then migrating fry are probably most vulnerable to predation. Hatchery fish that are released further upstream may encounter concentrations of all species of salmonid fry that occur in a given

river.”(HSRG, April, 2004, page B 55)

While the possibility of predation begs more research, wild steelhead face additional obstacles. Massive springtime out-migrations of hatchery fish attract huge concentrations of predatory birds to the estuary and, while hatchery fish make up the majority of their feast, wild fish undoubtedly fall prey to the hordes of cormorants, Arctic terns, and gulls that swarm the estuary. And, while the numbers of wild steelhead that succumb to predation may be small in contrast to the numbers of hatchery fish, the impact to these stocks may be severe.

Wild steelhead in the Willapa basin are holding on for now, but conservation and fishing groups must continue to pressure WDFW to give wild steelhead advocates a larger voice in hatchery management planning. 



To receive *The Osprey*, please return this coupon with your check made out to The Osprey - FFF

THE OSPREY

NAME _____

ADDRESS _____

CITY/STATE/ZIP _____

PHONE _____

E-Mail

I Am a New Subscriber

Send My Copies By E-Mail (PDF Electronic Version)

I Am An Existing Subscriber

Send My Copies by Standard Mail (Hardcopy)

Yes, I will help protect wild steelhead

- \$15 Basic Subscription
- \$25 Dedicated Angler Level
- \$50 For Future Generations of Anglers
- \$100 If I Put Off Donating, My Fish

Might Not Return Home

\$ _____ Other, Because _____

If you are a new subscriber, how did you hear about The Osprey?

- Friend or fellow angler
- Fishing show
- Fly shop, lodge or guide
- Another publication. Which? _____
- Club or conservation group meeting
- Other _____

I am a . . .

- Citizen Conservationist
- Commercial Outfitter/Guide
- Professional Natural Resources Mgr.
- Other _____

The Osprey — Steelhead Committee
Federation of Fly Fishers
5237 US Hwy 89 South, Suite 11
Livingston, MT 59047-9176

Thanks For Your Support



THE OSPREY

*Federation of Fly Fishers
5237 US Hwy 89 South, Suite 11
Livingston, MT 59047-9176*

Address Service Requested

Non-Profit Org.
U.S. Postage Paid
PAID
Bozeman, MT
Permit No. 99

2011 HONORS LIST

The Osprey wishes to thank the dedicated people and organizations who gave their financial support in 2011. Our readers are our primary source of funding. It's pretty remarkable that our home-grown journal, which only comes out three times a year, has developed such a generous following. Don't think we're not grateful, and a bit humbled.

We have always skated on thin financial ice, and will continue to do so. But without your support we fold up. The usual donation envelope is provided. Whatever you can afford will be much appreciated (and used wisely).

\$1000 and greater

James R. Hubbard

\$500 to \$999

Totem Flyfishers
Steelhead Society Of British Columbia
Steamboaters

\$200 to \$499

Washington Fly Fishing Club
Southern Oregon Flyfishers
Greg Pitts
Jerry Myers

\$100 to \$199

Roger Miles
Scott Hagen
Charles Keller
Jay Beckstead

Jon Lund
David Brown
James R Holder
Peter J. Tronquet
Art Carlson
Jim McRoberts
Norm Ploss

\$50 to \$99

Felton Jenkins
Tom McKey
Bruce Harang
Ira Smith
Richard Albrecht
Robert Giusti
Barbara Brown
Victor Breed
Eric Taylor
Alex Uber
William Lum
Patrick Dunham
Jon Archer
Ronald Schwarz
David Johnson
John R Winzler, Jr.
Jerome Cebula
Art Lingren
John Rogers
Bill Redman
Philip C. White
Bruce Ashley

\$15 to \$49

Timothy Goforth
Bruce M. Baker

Michael Gabrion
Don Kneass
Richland Johnson
Ed Smith
Edward King
Donald J. Starkin
Kirk Goliath
Richard Burge
Victor Rougean
Sam Wright
Dave Llewellyn
Herb Burton
Vance Luff
Walt Weber
Stephen L. Warren
Larry Brown
Richard Watts
Danny Beatty
Jim Waldvogel
Christine Moffitt
James Shivley
David Thomas
Dr. Tom Henderson
Robert Hooton
Chris Denchfield
Ryan Neely
Todd Sandell
Kim Lyons
Dominick Villella
Clayton Kinsel
Michael Aldridge
Mark Christie
Fred Carter
Stephen W. Asher